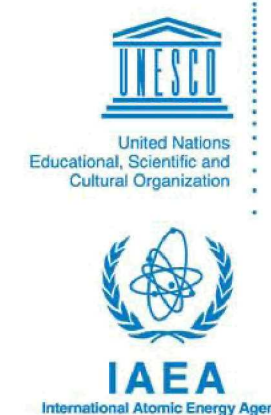# The Abdus Salam
International Centre for Theoretical Physics

SUMMER SCHOOL and CONFERENCE
MATHEMATICS, ALGORITHMS and PROOFS

School: 11 - 24 August 2008
Conference: 25 - 29 August 2008

ICTP, Miramare - Trieste, Italy

The Abdus Salam International Centre for Theoretical Physics (ICTP) is organizing a Summer School and Conference: **Mathematics, Algorithms and Proofs** from 11 to 29 August 2008. The activity will be directed by Thierry Coquand (Chalmers University, Göteborg, Sweden), Alicia Dickenstein (University of Buenos Aires, Argentina), Tornike Kadeishvili (Razmadze Mathematical Institute, Tbilisi, Georgia) and Francis Sergeraert (Fourier Institute, Grenoble, France).

This ICTP meeting will focus on the fantastic richness of the various interconnections between the subjects *Mathematics – Algorithms – Proofs*. The planned lecture series will illustrate these connections and the insights derived in various domains, mainly *Commutative Algebra, Algebraic Geometry, Number Theory, Point-Free Topology, Algebraic Topology.*

These events are also aimed at mathematicians with interest in the natural connections with modern Mathematical Logic, in particular Constructive Logic, and Theoretical Computer Science.

The meeting is organized in association with the **MAP group** (cf: http://map.disi.unige.it); MAP = Mathematics + Algorithms + Proofs.

The School will be organized in eleven mini-courses:

A = B (Peter Paule, Linz).
Algorithms and Algebraic Geometry (Gert-Martin Greuel, Kaiserslautern).
Computational Algebra (Teo Mora, Genova).
Constructive Algebra (Ihsen Yengui, Sfax).
Constructive Analysis (Douglas Bridges, Christchurch).
Constructive Logic (Thierry Coquand, Göteborg).
Effective Arithmetic and Motives (Alexei Pantchichkine, Grenoble).
Gröbner Bases (Jean-Charles Faugère, INRIA-Roquencourt).
Introduction to Combinatorial Homotopy (Francis Sergeraert, Grenoble).
Operadic Algebraic Topology (Tornike Kadeishvili, Tbilisi).
Point Free Topology (Erik Palmgren, Uppsala).

The current list of speakers of the **third week**'s Conference (25 – 29 August 2008):
M. Andres, S. Basu, A. Bauer, S. Collier Coutinho, M. El Kahoui, G. Jeronimo, M. Jibladze, M. Kauers, U. Kohlenbach, H. Lombardi, G. Matera, M. Mayero, A. Quadrat, M.-F. Roy, P. Schuster, H. Schwichtenberg, F. Wiedijk, Lihong Zhi.

Mathematicians from all countries that are members of the UN, UNESCO or IAEA may attend the School. The main purpose of the ICTP is to help researchers from developing countries through a programme of training activities within a framework international co-operation. However, students and post-doctoral scientists from developed countries are also welcome to attend. As the School will be conducted in English, participants should have an adequate working knowledge of that language.

Limited funds are available for some research workers who are nationals of, and working in, a developing country. As scarcity of funds allows travel to be granted only in a few exceptional cases, every effort should be made by candidates to secure support for their fares (or at least half fare) from their home country. Such support is available only for those who attend the entire activity. There is no registration fee.

The closing date for the receipt of requests for participation is March 25, 2008.

Candidates should complete, sign and return the **Application Form** obtainable through the ICTP WWW Server from the activity's Web Page, which will be constantly updated:
http://agenda.ictp.it/smr.php?1958

The Application form should be sent to:

The Abdus Salam International Centre for Theoretical Physics
Summer School and Conference "Mathematics, Proofs and Algorithms" (smr1958)
c/o Ms. K. Mabilo
Strada Costiera 11, I-34014 Trieste, Italy
or
smr1958@ictp.it (please save and send file attachments in PDF)

Telephone: +39-040-2240-455   Telefax: +39-040-2240-490
E-mail: smr1958@ictp.it
ICTP Home Page: http://www.ictp.it/

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Ihsen Yengui
Sfax, Tunisia

DEADLINE for receipt of applications:
March 25, 2008